

YOUNG, GIFTED AND MISSING

DIVERSITY IN HIGHER EDUCATION

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“Black males, throughout history, have been at the forefront of innovation, creativity, and social justice transformative moments; they have also been viewed as a threat, violent, and ill-prepared for academic success. This well-researched text carefully, systematically, and incrementally lays the foundation for the essential investment in Black males, particularly young Black males / students, to ensure they are on the path to success through role models and teachers who look like them (and typically can empathize), to strengthen the family and community nucleus to have the agency and access to resources to level the educational playing field of Black male young, and to be the cheerleaders for these precious minds to show them that they too can be a success, they matter, and they are capable as gifted, talented, respected Black male youth. This edited volume is well suited to challenge educators, policymakers, elected officials, funding entities, and many other audiences to prioritize the education of Black male youth (Black children in general) to ensure there is equity, inclusion, and representation.”

–Anthony E. Munroe, EdD, MBA, MPH, President, Borough of
Manhattan Community College (BMCC/CUNY)

“*Young, Gifted and Missing: The Underrepresentation of African American Males in Science, Technology, Engineering, and Mathematics Disciplines* takes a critical analysis to the dearth of Black males in STEM fields. The book powerfully illuminates individual, cultural, and structural barriers to STEM entry and ways to overcome barriers. The book challenges higher education as an institution to do better. But, the book also challenges Black males to harness the grit and hardiness of their ancestors to overcome and succeed in spite of obstacles.”

–Rashawn Ray, PhD, Professor of Sociology, Kekst Family Endowed
Research Fellow, Executive Director, Lab for Applied Social Science
Research, University of Maryland

“To address the decreasing trend in African American men obtaining degrees in STEM disciplines, we must center their narratives while fully understanding their experiences in the matriculation process. *Young, Gifted and Missing: The Underrepresentation of African American Males in Science, Technology, Engineering, and Mathematics Disciplines* is a timely and information-rich volume with concrete strategies and practical examples that can aid us in creating environments for African American men to succeed and thrive in STEM fields and beyond.”

–Brian L. McGowan, Associate Professor and Associate Director of the
Center for Teaching, Research, and Learning, American University, USA

DIVERSITY IN HIGHER EDUCATION VOLUME 25

**YOUNG, GIFTED AND MISSING:
THE UNDERREPRESENTATION OF
AFRICAN AMERICAN MALES IN
SCIENCE, TECHNOLOGY,
ENGINEERING AND MATHEMATICS
DISCIPLINES**

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LaVar J. Charleston is an accomplished researcher, scholar, and practitioner with two decades of experience related to diversity, equity, and inclusion in higher education and the workforce, and leads the University of Wisconsin–Madison's diversity and inclusion efforts.

Charleston is the university's chief diversity officer, also holding the titles of deputy vice chancellor for diversity and inclusion, vice provost, and Elzie Higginbottom Director of the Division of Diversity, Equity and Educational Achievement, or DDEEA.

A native of Detroit, MI, he most recently served as the inaugural associate dean for equity, diversity, and inclusion at UW-Madison's School of Education, where he is a clinical professor of higher education in the Department of Educational Leadership and Policy Analysis. Prior to that role, he served as the inaugural assistant vice chancellor for student diversity, engagement, and success at the University of Wisconsin–Whitewater.

Charleston has been a part of 12 education-related start-ups and has collaborated on multimillion-dollar projects with diverse constituents from a range of disciplines, departments, and institution types (e.g., HBCUs, PWIs, 2-year institutions) throughout the country and the world. He has been instrumental in receiving, facilitating, and/or evaluating research and education grants, projects and awards totaling over \$10 million and was recently appointed to the

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He previously served as Associate Director of the Institute for Urban and Minority Education and Director of the Science Education program at Teachers College, Columbia University.

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Dr Emdin holds a PhD in Urban Education with a concentration in Mathematics, Science, and Technology, Master's degrees in both Natural Sciences and Education and Bachelor's degrees in Physical Anthropology, Biology, and Chemistry.

He is the creator of the #HipHopEd social media movement, Science Genius BATTLES, and the CREATE Accelerator. He was recently named one of the 27 people bridging divides in the United States by *Time* magazine and the Root 100 list of most influential African Americans.

He is the author of numerous award-winning works including the award-winning, *Urban Science Education for the Hip-hop Generation* and the New York Times bestseller, *For White Folks Who Teach In the Hood and the Rest of Ya'll Too*. His latest books, *Ratchetdemic: Reimagining Academic Excellence* and *STEM, STEAM, Make, Dream* are currently available wherever books are sold.

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Zakia Y. Gates professional career as an educator has spanned over two decades. During those two decades, she served as a middle school teacher in the charter school system teaching across various content disciplines, Director of Education for a juvenile facility for at-risk youth, and currently she is the Assistant Professor of Teacher Education in the School of Education with Cabrini University. Dr Gates teaches foundation and methods courses to undergraduate and graduate-level students where her research focuses on social justice, equity, diversity, inclusion, and critical race theory which serve as the lens to examine the sociocultural and political context of Pre-K to 12 education. Her other research focus includes the experiences of Black women in societal and educational contexts and culturally relevant, responsive, and sustaining pedagogy.

Kevin K. Green has over 26 years of research and development experience in machine/deep learning, computer vision, remote sensing, full motion video, and image/signal processing. All of his degrees from bachelors to doctorate are in electrical engineering. He has received degrees from George Washington University (BSEE), the University of Michigan (MSEE), and the University of South Florida (PhD). He currently is a scientist with NGA (National Geospatial-Intelligence Agency) Research conducting research and development in applying state-of-the-art methods in object detection, classification, computer vision, image processing, and remote sensing methods in the diverse image modalities of Satellite/Aerial/ground electro-optical (EO), synthetic aperture radar (SAR), multispectral (MSI)/hyperspectral imaging (HSI), and full-motion video (FMV). Lastly, he was a full-time high school math teacher for three years, and a part-time University of Phoenix instructor teaching adult learners' math and computer science programming courses for over 14 years.

P. Thandi Hicks Harper is a cited authority on Hip-Hop culture as a catalyst for success in education and health, and the first to garner federal funds for Hip-Hop as a tool to prevent drug use among youth. She is the curriculum developer of the US Department of Health and Human Services' evidence-based curriculum: *Hip-Hop 2 Prevent Substance Abuse and HIV/AIDS (H2P)*.

Hicks Harper holds a PhD in Public Communications with a cognate in Education, Master's Degree in Mass Communications and a Bachelor's Degree in Speech Pathology with certifications in Elementary and Secondary Education. She is the first, worldwide, to examine the relationship between Hip-Hop and learning, and is a former adjunct professor at Howard University's School of Education.

As President/CEO of the Youth Popular Culture Institute, Incorporated, Hicks Harper continues to research and implement Hip-Hop based strategies. She

created the Hip-Hop Development theory for positive youth engagement and social emotional learning – which guides her work as Program Director/Principal Investigator for the Centers for Disease Control & Prevention’s National Drug-Free Communities Initiative.

Dr Hicks Harper has authored several articles and books, including *Hip-Hop’s Influence Within Youth Popular Culture: A Catalyst for Reaching Youth with Substance Abuse Prevention Messages* and *Hip-Hop Development: Exploring Hip-Hop Culture as a Youth Engagement Tool for Successful Community Building*. Her upcoming book, tentatively titled *Frederick Douglass in the Eras of Hip-Hop*, is planned for release in 2023. Hicks Harper is on the Board of Trustees for the US Congress enacted Frederick Douglass Memorial and Historical Association.

Erik M. Hines is an Associate Professor in the Department of Educational Psychology and Learning Systems at the Florida State University, where he also serves as the coordinator of the Counselor Education Program and School Counseling Track. Dr Hines prepares preservice school counselors, and his research agenda centers on (a) college and career readiness for African American males; (b) parental involvement and its impact on academic achievement for students of color; and (c) improving and increasing postsecondary opportunities for first generation, low-income, and students of color (particularly African American males). Additionally, his research examines career exploration in the fields of Science, Technology, Engineering, and Mathematics (STEM) for students of color. Over the years, he has secured major funding from the National Science Foundation to study the college readiness and persistence of African American males to improve their academic and career outcomes. Finally, he is a proud American Counseling Association (ACA) Fellow.

Craig L. Jackson currently serves as Associate Vice President of Development and Principal Gifts at the University of Nevada, Las Vegas (UNLV). He possesses over a decade of major gift fundraising experience, including overseeing a nearly \$3 million campaign at Oklahoma State University focused on engaging and securing philanthropic support from primarily Black alumni.

Craig began his career in advancement as a Clarence J. Jupiter fellow, an honor that is bestowed by the Council for Advancement and Support of Education (CASE), which is the professional organization for fundraising professionals in higher education. Consequently, Craig was recruited to the University of Kansas (KU) to serve as a Graduate Assistant at KU Endowment, where he worked to engage alumni of color in the philanthropic efforts of the university.

The experience at KU emboldened Craig to go on to have an extensive and robust career in advancement serving in major gift positions at Oklahoma State University Foundation, Arizona State University, the University of Illinois at Urbana-Champaign, and the University of California, Davis, before accepting his current role at UNLV. In addition to his work in advancement, Craig serves as an advisor on DEI issues to the Dean of the School of Education and Human

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James L. Moore III is the Vice Provost for Diversity and Inclusion and Chief Diversity Officer at The Ohio State University, while currently serving as the first Executive Director of the Todd Anthony Bell National Resource Center on the African American Male. He is also the inaugural EHE Distinguished Professor of Urban Education in the College of Education and Human Ecology. Dr Moore is internationally recognized for his work on African American males. He has published over 160 publications; obtained over \$25 million in grants, contracts, and gifts; and given over 200 scholarly presentations and lectures throughout the United States and other parts of the world. From 2018 to 2022, Dr Moore was cited by Education Week as one of the 200 most influential scholars and researchers in the United States, who inform educational policy, practice, and reform.

Nicola Norman is a community coordinator and health educator. She earned a BS in Human Nutrition from Morgan State University where she cofounded a community garden adjacent to campus. This garden has served as liaison between students and the community. Nicola has over a decade of health promotion education experience, working with organizations such as The Institute for Integrative Health, Living Classrooms Foundation, Real Food Farm, and The Living Well Center in Baltimore City. Her work has promoted immersive experiential health programming geared toward Baltimore City youth and families. As a student at Morgan State, she worked as a research assistance on the NSF-funded projects that led to the development of the ATOMMS teaching and assessment intervention described in this chapter.

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Mack Shelley is University Professor of Political Science, Statistics, and School of Education at Iowa State University, where he currently serves as Chair of the Department of Political Science. He has been on the faculty of Iowa State University since 1979, following his initial position at Mississippi State University from 1977 to 1979. At Iowa State he was Faculty Fellow for Department Chair Professional Development in the Office of the Senior Vice President and Provost, Director of the Research Institute for Studies in Education in the College of Education, Director of Graduate Education in the Department of Political Science, and Director of the Iowa Family Impact Seminar. In 2007 he received the Making a Difference Award, presented by the Ames, Iowa branch of the NAACP. He has served as coeditor of the *Policy Studies Journal*, Associate Editor of the *Journal of Information Technology & Politics*, president of the Iowa Educational Research and Evaluation Association, coeditor of the *International Journal of Education in Mathematics, Science and Technology*, and Associate Editor of the *Journal of Pre-College Engineering Education Research*. His work focuses on applications of advanced statistical methods to the study of public policy in education and other areas. He has served as Principal Investigator and Co-Principal Investigator on many National Science Foundation grants and has received funding from other sources including the Institute of Education Sciences. He served as an Evaluator for the National Science Foundation's Industry-University Cooperative Research Centers program. He received a BA from the American University (Washington, DC), and an MS and a PhD from the University of Wisconsin-Madison.

Ellen D. Smiley is a Full Professor at Grambling State University in the College of Education, where she teaches doctoral courses in the Department of Developmental and Higher Educational Studies. She is also the Dean of Grambling

State University's storied Earl Lester Cole Honors College. In 2003 Dr Smiley was selected as a member of the Inaugural Class of NAFEO Kellogg Fellows and received specialized training in Higher Education Administration from some of the nation's most renowned college and university presidents including Dr Arthur Thomas, the late Dr Joseph B. Johnson, and Dr Fred Humphries. Dr Smiley has served as Executive Assistant to the President and Provost and Vice-President for Academic Affairs at Grambling State University. Ellen earned Bachelor's and Master's degrees from Grambling State University and a Doctorate in Higher Education from the University of Arkansas at Little Rock.

Prentiss C. Smiley's grandmother bought him a computer loaded with software before he was able to read. The software featured animals that provided instruction on how to pronounce and read. People laughed at her because she bought a computer instead of a football. However, she was a retired educator who knew that this would jumpstart his education. This formed the foundation for his thought process, leadership skills, and ability to dream.

On the President's List each semester while attending Grambling State University, Prentiss was a Lexus Verses and Flow HBCU Scholar, Thurgood Marshall College Fund/Wells Fargo Scholar, National Association of HBCU Title III Administrator, Inc. Scholar, Former SGA Senator, and 2016 LA Legislative Black Caucus Top Scholarship Recipient. Prentiss was the President of the Earl Lester Cole Honors College. During his tenure, he rallied the student body to approve a self-assessed fee that strengthened and revised the honors college.

He received the Carter G. Woodson Award, W. E. B. DuBois Undergraduate Paper Award, and the Organization of Parish Administrative Officials of the Police Jury Association of LA Scholarship. He was also an on-air personality and host of Good Morning Grambling on KGRM 91.5 FM. Prentiss' ingenuity allowed him to earn a BA in History, a BS in CIS, and an MA in Social Science with concentrations in History and Psychology debt free, and he was Valedictorian of his class. Prentiss teaches Social Science and Psychology at Grambling State University and is a consultant for the Secretary of State and other agencies.

Henry Tran is an Associate Professor at the University of South Carolina's Department of Educational Leadership and Policies who studies issues related to education human resources (HR) and finance. He has published numerous articles on the topics, including several with students. He holds two national HR certifications and serves on the Board of Advisors and Board of Trustees for the National Education Finance Academy. He is also the editor of the *Journal of Education Human Resources*, the Director of the Talent Centered Education Leadership Initiative, and program coordinator for the EdD with a concentration in Education Systems Improvement. Prior to his professorship, Tran served as an HR practitioner in both the private sector and in public education. He draws from both experiences in his research and teaching.

FOREWORD

Science, technology, engineering, and mathematics – STEM – has been identified as a critical area of educational and workforce development with targeted funding to promote these disciplines. However, disparities in who pursues STEM fields clearly remain and warrant sustained attention. Too often, assumptions about differences between groups, whether the differences pertain to assumptions about ability to succeed or preferences to participate, are reinforced and subsequently lead to the creation of more disparities. Therefore, it is crucial that we recognize diversity where it does exist, noting progress toward equity and offering empirical evidence that can impede the further perpetuation of stereotypes about who belongs in STEM fields.

Race and ethnicity continue to be salient characteristics in shaping STEM trajectories. Underrepresented racial minority students aspire to STEM careers at rates equivalent to or exceeding their white and Asian American counterparts, but constitute a disproportionately small amount of the US STEM workforce, particularly African American men. Without the participation of individuals of all racial/ethnic backgrounds and genders, the increasing demand for workers in these fields will not be met, potentially compromising the position of the United States as a global leader. Given the heightened and substantial efforts at both national and local levels in recent years aimed at promoting and diversifying STEM fields, an examination of contemporary trends is clearly warranted.

This book examines how and why certain groups have more or less access, opportunity, and success in the educational trajectories leading to STEM occupations. Obstacles to reaching equity in who pursues degrees in STEM disciplines are explored. While daunting, these obstacles likely play a role in the continuing relative absence of African American men in STEM at all levels. However, the benefits of diversity are substantial. The potential ramifications of not addressing the recent decline in percent of African American men obtaining BS degrees are significant. If left alone, these trends of decline and critical loss will yield an empty pool to choose future African American male STEM professionals. Is the elephant in the room simply we have tried remedying the problem by seeking equality as opposed to equity? The disparity (as seen in STEM professions) is more about opportunity afforded some over others rather than the premise that all opportunity is equal.

The book considers equity and its context. We understand that important stories can be missed by treating either gender or racial/ethnic differences in the aggregate. When examining racial differences through a broad lens, we are in effect assuming that one set of patterns, obstacles, and experiences applies generally to all. The book fosters that this is indeed a problematic assumption.

This book makes new contributions to the field in that it is led by a collective of higher education professionals and change agents who are tied to STEM. In addition, the text sets the stage for addressing critical issues around educational success of African American males in STEM using an antideficit framework. The professional educators involved in this project bring cutting-edge thinking in how best to address the leaky STEM pipeline which has left the industry/workforce void of talented African American men. The volume promises timely, relevant, and emergent scholarship and perspectives for STEM leadership, scholars, and supporters. In addition, the book provides best practices and recommendations in recruiting, retaining, and thriving of African American males in STEM disciplines and the competitive market place.

Tomorrow's African American male graduates will compete in an emerging global economy fueled by rapid innovation and marked by an astonishing pace of technological breakthroughs. The prepared STEM graduate will navigate a shifting societal framework enhanced by technologies that accelerate product development cycles due to yet-to-be imagined innovative strategies/techniques. The thorough integration of technology with society will challenge the analytical skills, creativity, and leadership of STEM graduates.

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